This shows the reaction between two amino acids.

$$NH_2$$
-R-COOH + NH_2 -R'-COOH $\rightarrow NH_2$ -R-CO-NH-R'-COOH + H_2 O

So the carbon atom at one end of amino acid has joined to the nitrogen atom at one end of other amino acid, by eliminating **a water molecule**. This linking group of atoms (-**CO-NH-**) is called an **amide linkage**.

In condensation reaction molecules join at their functional groups, by getting rid or eliminating **a small molecule** (a molecule of hydrogen chloride - HCl, a water molecule - H_2O)

For example:

$$R-NH_2 + R^-COCl \rightarrow R-NH-CO-R^+ + HCl$$

$$HOOC-R-COOH + HO-R`-OH \rightarrow HOOC-R-CO-O-R`-OH + H_2O$$

Group "-CO-O-" is called an ester linkage.

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